L Number	Hits	Search Text	DB	Time stamp
1	4	prisca	USPAT; US-PGPUB	2003/12/15 15:46
2	21	Cys93	USPAT; US-PGPUB	2003/12/15 15:47
3	7	Cys112	USPAT; US-PGPUB	2003/12/15 15:56

09/787,216

File 5:Biosis Previews(R) 1969-2003/Dec W1
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Set Items Description

Set	Items	Description
S1	133	PRISCA
S2	53729	HEMOGLOBIN
S3	1	S1 AND S2
S4	5	CYS93 AND S2
S5	1	CYS112 AND S2
S6	1	CYS9 AND S2
S7	1	SER9 AND S2
S8	17	PORTO AND S2
S9	0	ALA71 AND S2
S10	0	ALA53 AND S2
S11	119	E3-E6
S12	0	SER9 AND S11
S13	1	CYS93 AND S11

3/3/1
DIALOG(R)File 5:Biosis Previews(R)

0013224329 BIOSIS NO.: 200100396168
Molecular engineering of a polymer of tetrameric hemoglobins
AUTHOR: Fronticelli Clara (Reprint); Arosio Daniele; Bobofchak Kevin M; Vasquez Gregory B
AUTHOR ADDRESS: Department of Anesthesiology, Johns Hopkins University School of Medicine, 600 N. Wolfe St., Baltimore, MD, 21287, USA**USA
JOURNAL: Proteins 44 (3): p212-222 August 15, 2001 2001
MEDIUM: print
ISSN: 0887-3585
DOCUMENT TYPE: Article
RECORD TYPE: Abstract
LANGUAGE: English
? t s3/7/1

3/7/1
DIALOG(R)File 5:Biosis Previews(R)

0013224329 BIOSIS NO.: 200100396168
Molecular engineering of a polymer of tetrameric hemoglobins
AUTHOR: Fronticelli Clara (Reprint); Arosio Daniele; Bobofchak Kevin M; Vasquez Gregory B
AUTHOR ADDRESS: Department of Anesthesiology, Johns Hopkins University School of Medicine, 600 N. Wolfe St., Baltimore, MD, 21287, USA**USA
JOURNAL: Proteins 44 (3): p212-222 August 15, 2001 2001
MEDIUM: print
ISSN: 0887-3585
DOCUMENT TYPE: Article
RECORD TYPE: Abstract
LANGUAGE: English

ABSTRACT: We have engineered a recombinant mutant human %%%hemoglobin%%%, Hb %%%Prisca%%% beta(S9C+C93A+C112G), which assembles in a polymeric form. The polymerization is obtained through the formation of intermolecular S-S bonds between cysteine residues introduced at position beta9, on the model of Hb Porto Alegre (beta9SerfwdarwCys) (Bonaventura and Riggs, Science 1967;155:800-802). Cbeta93 and Cbeta112 were replaced in order to prevent formation of spurious S-S bonds during the expression, assembly, and polymerization events. Dynamic light scattering measurements indicate that the final polymerization product is mainly formed by 6 to 8 tetrameric %%%hemoglobin%%% molecules. The sample polydispersity Q=0.07+-0.02, is similar to that of purified human %%%hemoglobin%%% (Q=0.02+-0.02), consistent with a good degree of homogeneity. In the presence of strong reducing agents, the polymer reverts to its tetrameric form. During the depolymerization process, a direct correlation is observed between the hydrodynamic radius and the light scattering of the system, which, in turn, is proportional to the

mass of the protein. We interpret this to indicate that the %%%hemoglobin%%% molecules are tightly packed in the polymer with no empty spaces. The tight packing of the %%%hemoglobin%%% molecules suggests that the polymer has a globular shape and, thus, allows estimation of its radius. An illustration of an arrangement of a finite number of tetrameric %%%hemoglobin%%% molecules is presented. The conformational and functional characteristics of this polymer, such as heme pocket conformation, stability to denaturation, autoxidation rate, oxygen affinity, and cooperativity, remain similar to those of tetrameric human %%%hemoglobin%%%.

? t s5/7/1

5/7/1
DIALOG(R)File 5:Biosis Previews(R)

0009377763 BIOSIS NO.: 199497399048
The dimer-tetramer equilibrium of recombinant hemoglobins: Stabilization of the alpha-1-beta-2 interface by the mutation beta(%%%Cys112%%% fwdarw Gly) at the alpha-1-beta-1 interface
AUTHOR: Fronticelli Clara (Reprint); Gattoni Maurizio; Lu A-Lien; Brinigar William S; Bucci Jeffries L G; Chiancone Emilia
AUTHOR ADDRESS: Dep. Biochem., Univ. Maryland, Sch. Med., 108 N. Greene St., Baltimore, MD 21201, USA**USA
JOURNAL: Biophysical Chemistry 51 (1): p53-57 1994 1994
DOCUMENT TYPE: Article
RECORD TYPE: Abstract
LANGUAGE: English

ABSTRACT: The dimer-tetramer association constants of several recombinant human hemoglobins (in the CO form) have been measured by differential gel filtration. Recombinant human %%%hemoglobin%%% prepared from recombinant beta-chains, and mutant hemoglobins where the substitution was on the surface, beta(Thr4 fwdarw Asp), in the heme pocket, beta(Val67 fwdarw Thr), at the 2,3-DPG binding site, beta(Val1 fwdarw Met + His2del), had a twofold smaller association with respect to natural %%%hemoglobin%%%. In a mutant at the alpha-1-beta-2 interface, beta(Cys93 fwdarw Ala), the association constant was decreased three-fold. Conversely, in a mutant at the alpha-1-beta-1 interface, beta(%%%Cys112%%% fwdarw Gly), the association constant was two- and four-fold increased with respect to natural and recombinant human %%%hemoglobin%%%. These differences are energetically very small, consistent with the correct folding of the recombinant hemoglobins. The stabilization of the tetrameric structure by a mutation at the alpha-1-beta-1 interface indicates that structural changes at this interface can be propagated through the protein to the alpha-1-beta-2 interface and, thereby, exert an effect on the allosteric equilibrium.

? t s4/7/1-5

4/7/1
DIALOG(R)File 5:Biosis Previews(R)

0012747165 BIOSIS NO.: 200000465478
Application of native-state electrospray mass spectrometry to identify zinc-binding sites on engineered %%%hemoglobin%%%
AUTHOR: Lippincott Julie; Fattor Timothy J; Lemon Douglas D; Apostol Izydor (Reprint)
AUTHOR ADDRESS: Baxter Hemoglobin Therapeutics, 2545 Central Avenue, Boulder, CO, 80301, USA**USA
JOURNAL: Analytical Biochemistry 284 (2): p247-255 September 10, 2000 2000
MEDIUM: print
ISSN: 0003-2697
DOCUMENT TYPE: Article
RECORD TYPE: Abstract
LANGUAGE: English

ABSTRACT: We report the utility of native-state mass spectrometry to detect zinc ion binding to the engineered %%%hemoglobin%%% rHb52. Various preparations of this recombinant %%%hemoglobin%%% had significantly

different oxygen affinities. Detailed characterization of denatured globins did not show any difference between analyzed %%%hemoglobin%%% molecules. However, when solutions of intact %%%hemoglobin%%% pseudotetramers were analyzed by native-state electrospray mass spectrometry, a significant shift in the mass spectrum was observed, indicating labile modification of %%%hemoglobin%%%. Using collision-induced dissociation (CID), we found a mass gain of 63 Da located on the beta-globin. EDTA treatment of modified %%%hemoglobin%%% prior to the infusion removed the modification and restored the predicted oxygen affinity. Ion-trap fragmentation of the +8 charged ion of modified beta-globin showed a neutral loss of 96 +- 1 Da, consistent with neutral loss of zinc sulfide. These findings indicated zinc binding to the beta-globin through a cysteine residue. Involvement of %%%Cys93%%% was confirmed by kinetics of cysteine residue reactivity with dithiodipyridine and peptide mapping. Presence of zinc was confirmed by ICP-MS metal analysis.

4/7/2
DIALOG(R)File 5:Biosis Previews(R)

0009377763 BIOSIS NO.: 199497399048
The dimer-tetramer equilibrium of recombinant hemoglobins: Stabilization of the alpha-1-beta-2 interface by the mutation beta(Cys112 fwdarw Gly) at the alpha-1-beta-1 interface
AUTHOR: Fronticelli Clara (Reprint); Gattoni Maurizio; Lu A-Lien; Brinigar William S; Bucci Jeffries L G; Chiancone Emilia
AUTHOR ADDRESS: Dep. Biochem., Univ. Maryland, Sch. Med., 108 N. Greene St., Baltimore, MD 21201, USA**USA
JOURNAL: Biophysical Chemistry 51 (1): p53-57 1994 1994
DOCUMENT TYPE: Article
RECORD TYPE: Abstract
LANGUAGE: English

ABSTRACT: The dimer-tetramer association constants of several recombinant human hemoglobins (in the CO form) have been measured by differential gel filtration. Recombinant human %%%hemoglobin%%% prepared from recombinant beta-chains, and mutant hemoglobins where the substitution was on the surface, beta(Thr4 fwdarw Asp), in the heme pocket, beta(Val67 fwdarw Thr), at the 2,3-DPG binding site, beta(Val1 fwdarw Met + His2del), had a twofold smaller association with respect to natural %%%hemoglobin%%%. In a mutant at the alpha-1-beta-2 interface, beta(%%%Cys93%%% fwdarw Ala), the association constant was decreased three-fold. Conversely, in a mutant at the alpha-1-beta-1 interface, beta(Cys112 fwdarw Gly), the association constant was two- and four-fold increased with respect to natural and recombinant human %%%hemoglobin%%%. These differences are energetically very small, consistent with the correct folding of the recombinant hemoglobins. The stabilization of the tetrameric structure by a mutation at the alpha-1-beta-1 interface indicates that structural changes at this interface can be propagated through the protein to the alpha-1-beta-2 interface and, thereby, exert an effect on the allosteric equilibrium.

4/7/3
DIALOG(R)File 5:Biosis Previews(R)

0008181803 BIOSIS NO.: 199293024694
THE ASSIGNMENT OF CARBON MONOXIDE ASSOCIATION RATE CONSTANTS TO THE ALPHA AND BETA SUBUNITS IN NATIVE AND MUTANT HUMAN DEOXYHEMOGLOBIN TETRAMERS
AUTHOR: MATHEWS A J (Reprint); OLSON J S; RENAUD J-P; TAME J; NAGAI K
AUTHOR ADDRESS: DEP BIOCHEMISTRY CELL BIOLOGY, RICE UNIVERSITY, HOUSTON, TEX 77251, USA**USA
JOURNAL: Journal of Biological Chemistry 266 (32): p21631-21639 1991
ISSN: 0021-9258
DOCUMENT TYPE: Article
RECORD TYPE: Abstract
LANGUAGE: ENGLISH

ABSTRACT: The association kinetics of CO binding to site-directed mutants of human deoxyhemoglobin were measured by stopped-flow rapid mixing techniques at pH 7.0, 20.degree. C. %%%Hemoglobin%%% tetramers were constructed from one set of native subunits and one set of mutated partners containing His(E7) to Gly, Val(E11) to Ala, or Val(E11) to Ile substitutions. The reactivity of .beta. %%%Cys93%%% with p-hydroxymercuribenzoate was measured to ensure that the mutant deoxyhemoglobins were capable of forming T-state quaternary conformations. Time courses for the complete binding of CO were measured by mixing the deoxygenated proteins with a 5-fold excess of ligand in the absence and presence of inositol hexaphosphate. Association rate constants for the individual .alpha. and .beta. subunits in the T-state conformation were assigned by measuring time courses for the reaction of a small, limiting amount of CO with a 20-fold excess of deoxyhemoglobin (i.e. Hb4 + CO .fwdarw. Hb4(CO)). The effects of the E7 and E11 mutations in T-state .alpha. subunits were qualitatively similar to those observed for the same subunit in the R-state (Mathews, A. J., Rohlfs, R. J., Olson, J. S., Tame, J., Renaud, J-P., and Nagai, K. (1989) J. Biol. Chem. 264, 16573-16583). The .alpha. His58(E7) to Gly and Val62(E11) to Ala substitutions caused 80- and 3-fold increases, respectively, in k'CO for T-state .alpha. subunits, and the .alpha. Val62(E11) to Ile mutation caused a 3-fold decrease. The .beta. His63(E7) to Gly and Val67(E11) to Ala substitutions produced 70- and 8-fold increases, respectively, in k'CO for T-state .beta. subunits whereas these same mutations caused little effect on the rate of CO binding to R-state .beta. subunits. The .beta. Val67(E11) to Ile mutation produced the same large effect, a 23-fold reduction in k'CO, in both quaternary conformations of .beta. subunits. These kinetic results can be interpreted qualitatively in terms of differences between the .alpha. and .beta. subunits in the deoxy and liganded crystal structures of human %%%hemoglobin%%% (Perutz, M. F. (1990) Annu. Rev. Physiol. 52, 1-25). Both the structural and functional data suggest that the distal portion of the .beta. heme pocket is tightly packed in deoxyhemoglobin whereas the CO binding site in R-state .beta. subunits is much more open. In contrast, the distal portion of the .alpha. heme pocket is restricted sterically in both quaternary states. Finally, the mutagenesis results show that the association rate constant for the binding of the first CO molecule to deoxyhemoglobin is roughly the same for native .alpha. (0.12 .+-. 0.03 .mu.M-1 s-1) and .beta. (0.18 .+-. 0.05 .mu.M-1 s-1) subunits at pH 7, 20.degree. C.

4/7/4
DIALOG(R)File 5:Biosis Previews(R)

0006226093 BIOSIS NO.: 198886066014
ALLOSTERIC ENERGY AT THE %%%HEMOGLOBIN%%% BETA CHAIN CARBOXYL TERMINUS STUDIED BY HYDROGEN EXCHANGE
AUTHOR: LOUIE G (Reprint); THAO TRAN; ENGLANDER J J; ENGLANDER S W
AUTHOR ADDRESS: DEP BIOCHEM BIOHYSICS, UNIV PA, PHILADELPHIA, PA 19104, USA **USA
JOURNAL: Journal of Molecular Biology 201 (4): p755-764 1988
ISSN: 0022-2836
DOCUMENT TYPE: Article
RECORD TYPE: Abstract
LANGUAGE: ENGLISH

ABSTRACT: When %%%hemoglobin%%% switches from the deoxy (T) to the liganded (R) form, several of its peptide group NH experience a great increase in their rate of exchange with water. Selective labeling and fragment isolation experiments identify some of the sensitive protons as three to four near-neighbor H-bonded peptide NH placed between Ala140.beta. and the C-terminal His146.beta. residue. These NH have differing solvent accessibilities, yet all exchange at about the same rate, and they maintain a common rate in the face of modifications that change their exchange rate over a 1000-fold range. This suggests that their exchange is mediated by a concerted transient unfolding reaction. The removal of allosterically important salt links at the distant alpha subunit N termini (des-Arg 141.alpha. %%%hemoglobin%%%) has little if any effect on the indicator NH at the beta C terminus. This demonstrates the restricted reach of the separate allosteric interactions in the T form as well as

the localized nature of the H-exchange probe. Breakage of a salt link at the beta chain C terminus (His 146.beta. to Asp94.beta.) by chemical modification (NES-%%%Cys93%%% beta. %%%hemoglobin%%%) speeds exchange of the indicator peptide NH in T-state %%%hemoglobin%%% by six-fold, which corresponds to an allosteric destabilization at the C-terminal segment of 1 kcal (pH 7.4, 0.degree.C), according to local unfolding theory. This is in quantitative agreement with energy values obtainable from other measurements. These NH exchange with an average halftime of five hours in deoxy %%%hemoglobin%%% and 15 seconds in oxy %%%hemoglobin%%%. According to the unfolding model for protein H-exchange, the 1200-fold increase in rate indicates a loss of 3.8 kcal in structural stabilization free energy at or near the C terminus of each beta chain in the T to R transition (pH 7.4, 0.degree.C, with 2,3-diphosphoglycerate). This result together with other available data places about 70% of %%%hemoglobin%%%'s total allosterically significant structural energy change at the beta chain C termini.

4/7/5
DIALOG(R)File 5:Biosis Previews(R)

0004627606 BIOSIS NO.: 198579046505
5 THIO-2-NITROBENZOATE AS A CIRCULAR DICHROISM MARKER TO DETECT THE TENSE STRUCTURE OF BOVINE %%%HEMOGLOBIN%%%
AUTHOR: TABUSHI I (Reprint); SASAKI T; YAMAMURA K
AUTHOR ADDRESS: DEP SYNTHETIC CHEM, KYOTO UNIV, SAKYO-KU, KYOTO 606, JAPAN **JAPAN
JOURNAL: Bioorganic Chemistry 12 (3): p242-251 1984
ISSN: 0045-2068
DOCUMENT TYPE: Article
RECORD TYPE: Abstract
LANGUAGE: ENGLISH

ABSTRACT: A characteristic, strong CD [circular dichroism] absorption appeared at 312 nm, when a 5-thio-2-nitrobenzoate (TNB) group was anchored at %%%Cys93%%%-S(.beta.F9) of bovine Hb through-SS-linkage. The Hill coefficient, n = 2.7 of the TNB-modified Hb was practically identical with that of native Hb, demonstrating that the marker-anchoring was made successfully, without destroying the cooperativity function. The new 312-nm CD absoprtion disappears concurrently with the conversion from the tense to the relaxed quarternary structure of Hb, clearly indicating that TNB is an excellent CD marker to detect the tense structure of deoxy-Hb.
? t s6/7/1

6/7/1
DIALOG(R)File 5:Biosis Previews(R)

0012143180 BIOSIS NO.: 199900402840
Ligand-linked changes at the subunit interfaces in Scapharca hemoglobins probed through the sulfhydryl infrared absorption
AUTHOR: Guarrera Laura; Colotti Gianni; Chiancone Emilia; Boffi Alberto (Reprint)
AUTHOR ADDRESS: CNR Centro di Biologia Molecolare and Dipartimento di Scienze Biochimiche "A. Rossi Fanelli" Universita "La Sapienza", 00185, Roma, Italy**Italy
JOURNAL: Biochemistry 38 (31): p10079-10083 Aug. 3, 1999 1999
MEDIUM: print
ISSN: 0006-2960
DOCUMENT TYPE: Article
RECORD TYPE: Abstract
LANGUAGE: English

ABSTRACT: FTIR spectra of native Scapharca homodimeric %%%hemoglobin%%% (HbI) and of the Phe97fwdarwIle mutant have been measured in the region 2400-2700 cm-1 where the absorption of the sulfhydryl groups can be observed. In native HbI, the two Cys92 residues give rise to a relatively intense band centered at 2559 cm-1 that is shifted to 2568 cm-1 and strongly quenched upon ligand binding. In the Phe97fwdarwLeu mutant, such

ligand-linked changes are not observed and the strong peak at around 2560 cm-1 persists in the liganded derivatives. In native HbI, the observed changes have been attributed to the decrease in polarity of the interface due to the ligand-induced extrusion of the Phe97 phenyl ring from the heme pocket to the interface and the subsequent release of several water molecules that are clustered in the vicinity of Cys92. In contrast, in the Phe97fwdarwLeu mutant, the Leu residue does not leave the heme pocket upon ligand binding and the interface is unaltered. The Cys92/S-H infraredband, therefore, represents a sensitive probe of the structural rearrangements that take place in the intersubunit interface upon ligand binding to HbI. The heterotetrameric Scapharca %%%hemoglobin%%% HbII contains, in addition to the Cys92 residues in the interfaces, two extra sulfhydryl groups per tetramer (%%%Cys9%%% in the B chain) that are exposed to solvent in the A helix. The frequency of the %%%Cys9%%%/S-H stretching vibration occurs at 2582 cm-1 in the unliganded and at 2586 cm-1 in the liganded derivative, pointing to the involvement of the A helix in the ligand-linked polymerization characteristic of HbII.

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? s Ser9 and s2
             78  SER9
          53729  S2
     S7       1  SER9 AND S2
? t s7/7/1
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 7/7/1
DIALOG(R)File   5:Biosis Previews(R)
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0007649274 BIOSIS NO.: 199191032165

PURIFICATION AND CHARACTERIZATION OF A NOVEL INTRACELLULAR ACID PROTEINASE FROM THE PLASMODIA OF A TRUE SLIME MOLD PHYSARUM-POLYCEPHALUM

AUTHOR: MURAKAMI-MUROFUSHI K (Reprint); TAKAHASHI T; MINOWA Y; IINO S; TAKEUCHI T; KITAGAKI-OGAWA H; MUROFUSHI H; TAKAHASHI K

AUTHOR ADDRESS: DEP OF BIOL, FAC OF SCI, OCHANOMIZU UNIV, BUNKYO-KU, TOKYO 112, JAPAN**JAPAN

JOURNAL: Journal of Biological Chemistry 265 (32): p19898-19903 1990

ISSN: 0021-9258

DOCUMENT TYPE: Article

RECORD TYPE: Abstract

LANGUAGE: ENGLISH

ABSTRACT: An acid proteinase was purified to apparent homogeneity from the plasmodia of a slime mold, Physarum polycephalum, by a combination of detergent extraction, acid precipitation, and column chromatographies on DEAE-Sephadex, hydroxylapatite, CM-Sephadex, and Sephadex G-100. The enzyme was shown to be composed to two polypeptide chains (a 31-kDa heavy chain and a 23-kDa light chain) cross-linked by disulfide bond(s). The NH2-terminal amino acid sequence of the heavy chain was determined to be Ala-Gly-Val-Asp-Gly-Tyr-Ile-Val-Pro-Tyr-Val-Ile-Phe-Asp-Leu-Tyr-Gly-Ile-Pro-Tyr and that of the light chain to be Ala-Glu-Pro-Pro-Ile. The heavy chain contained carbohydrate moiety composed of mannose, glucosamine, fucose, and glucose. The enzyme was optimally active at pH 1.7 toward %%%hemoglobin%%% as a substrate. Among the proteinase inhibitors tested only diazoacetyl-D,L-norleucine methyl ester, a typical aspartic proteinase inhibitor, inhibited the acid proteinase in the presence of cupric ions. It was insensitive to the other typical aspartic proteinase inhibitors, pepstatin A and 1,2-epoxy-3-(p-nitrophenoxy)propane. The enzyme hydrolyzed Lys-Pro-Ile-Glu-Phe-Phe(4-NO2)-Arg-Leu at the Phe-Phe(4-NO2) bond, but could not hydrolyze another synthetic pepsin-substrate, N-acetyl-L-phenylalanyl-3,5-diiodo-L-tyrosine. The enzyme showed a unique substrate specificity toward oxidized insulin B chain. The major cleavage sites were the bonds Gly8-%%%Ser9%%%, Leu11-Val12, Cya19-Gly20, and Phe24-Phe25, and the Gly8-%%%Ser9%%% bond was most susceptible. These results indicate that the enzyme is a novel type of intracellular acid proteinase with a unique substrate specificity.

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? t s8/7/1-17
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 8/7/1
DIALOG(R)File   5:Biosis Previews(R)
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0014339881 BIOSIS NO.: 200300297700
[Acute gastrointestinal bleeding.]
ORIGINAL LANGUAGE TITLE: Akute gastrointestinale Blutungen.
AUTHOR: Klebl F (Reprint); Langgartner J; Schoelmerich J; Messmann H
AUTHOR ADDRESS: Klinik und Poliklinik fuer Innere Medizin I, Klinikum der Universitaet Regensburg, 93042, Regensburg, Germany**Germany
AUTHOR E-MAIL ADDRESS: frank.klebl@klinik.uni-regensburg.de
JOURNAL: Intensivmedizin und Notfallmedizin 40 (2): p158-174 Maerz 2003 2003
MEDIUM: print
ISSN: 0175-3851
DOCUMENT TYPE: Article; Literature Review
RECORD TYPE: Abstract
LANGUAGE: German

ABSTRACT: Gastrointestinal bleeding is a potentially life-threatening condition. It is lethal in about 10% of patients. Patients with nosocomial bleeding comprise a high-risk population. Mortality of upper gastrointestinal bleeding in patients of intensive care units is extremely high with 42% to 64%. In 75-85% of gastrointestinal bleedings, the source of bleeding is located proximal to the ligament of Treitz. Usually, these upper gastrointestinal tract bleedings are more severe than those affecting the lower gastrointestinal tract. By taking the patients' history and performing a clinical examination, first hints on the bleeding source can be gained. The patients' prognosis and mortality risk is dependent on the intensity of the hemorrhage, which is reflected by the presence of shock, the decline of the patients' %%%hemoglobin%%% concentration, the need for blood transfusions or clinical signs such as hematemesis. They are also influenced by pre-existing illness or an older age. Within the last couple of years, scores for upper gastrointestinal bleeding have been developed which aim to assess the patients' risk of mortality and therefore should alleviate the decision about his need for intensive care treatment. Rebleeding increases the patients' mortality rates dramatically, especially in patients who are at low risk primarily. As a consequence, one goal in the treatment of gastrointestinal bleeding is to prevent rebleeding. Mechanical ventilation for at least 48 hours and coagulopathy are the two main risk factors for developing clinical significant upper gastrointestinal bleeding as a patient in the ICU. Patients who present with those risk factors are likely to profit from stress ulcer prophylaxis. H2-receptor antagonists are the prophylactic drugs of choice at the moment. The gold standard in the diagnosis and treatment of gastrointestinal bleeding are endoscopic techniques. Mere drug treatment usually is not as effective. The location of bleeding may also be detected by angiography, which offers the option of therapeutical intervention. Scintigraphy is more sensitive than angiography in diagnosing the presence of bleeding, but detection of the location of hemorrhage is less accurate. In case of variceal bleeding, balloon tamponade offers a potential therapeutic option by applying local compression. If endoscopic and medical options or balloon tubes are not successful, transjugular %%%porto%%%-systemic shunting can be applied in order to achieve hemostasis. Surgical techniques, which are aimed to stop gastrointestinal bleeding, are associated with high mortality rates and therefore are the last therapeutic options.

8/7/2
DIALOG(R)File 5:Biosis Previews(R)

0014268092 BIOSIS NO.: 200300226811
QT interval in patients with non-cirrhotic portal hypertension and in cirrhotic patients treated with transjugular intrahepatic portosystemic shunt.
AUTHOR: Trevisani Franco (Reprint); Merli Manuela; Savelli Francesco; Valeriano Valentina; Zambruni Andrea; Riggio Oliviero; Caraceni Paolo; Domenicali Marco; Bernardi Mauro
AUTHOR ADDRESS: Dipartimento di Medicina Interna Cardioangiologia, Epatologia, University of Bologna, Via Massarenti, 9, Alma Mater Studiorum, 40138, Bologna, Italy**Italy

AUTHOR E-MAIL ADDRESS: trevi@unibo.it
JOURNAL: Journal of Hepatology 38 (4): p461-467 April 2003 2003
MEDIUM: print
ISSN: 0168-8278 _(ISSN print)
DOCUMENT TYPE: Article
RECORD TYPE: Abstract
LANGUAGE: English

ABSTRACT: Background/Aims: A prolonged QT interval is frequent in chronic liver disease and its aetiology remains unsettled. The study's aim was to assess the role of portal hypertension in the pathogenesis of QT prolongation. Methods: We measured the QT interval in: (1) 10 patients with non-cirrhotic portal hypertension (NCPH) and preserved liver function; (2) 19 cirrhotic patients before, 1-3 and 6-9 months after transjugular intrahepatic portosystemic shunt (TIPS) insertion. Results: Baseline corrected maximum QT interval (QTcmax) was prolonged (>440 ms) in eight NCPH and 16 cirrhotic patients, and its value did not differ between the two groups (453 +- 8 vs. 465 +- 6 ms, P = NS). No patients showed an abnormal baseline QT dispersion. In cirrhotic individuals, QTcmax further increased 1-3 months after TIPS (P = 0.042), thereafter remaining steadily elevated. QT dispersion only increased at the second post-TIPS determination (P = 0.030). Such changes occurred despite no deterioration of liver function, plasma electrolytes and haemoglobin. Conclusions: QT interval is frequently prolonged in patient with both non-cirrhotic and cirrhotic portal hypertension and portal decompression by TIPS worsens this abnormality. These results suggest that the %%%porto%%%-systemic shunting is responsible for the altered ventricular repolarisation possibly through a dumping into the systemic circulation of splanchnic-derived cardioactive substances.

8/7/3
DIALOG(R)File 5:Biosis Previews(R)

0014130777 BIOSIS NO.: 200300089496
Multicenter Study on Perioperative Transfusions Requirements in Liver Transplantation.
AUTHOR: Samain Emmanuel (Reprint); Courtois Francoise (Reprint); Peynaud Edith (Reprint); Ozier Yves (Reprint)
AUTHOR ADDRESS: The French Study Group Service of Anesthesiology Beaujon Hospital, Clichy, France**France
JOURNAL: Anesthesiology Abstracts of Scientific Papers Annual Meeting (2000): pAbstract No. 202 2002 2002
MEDIUM: cd-rom
CONFERENCE/MEETING: 2000 Annual Meeting of the American Society of Anesthesiologists San Francisco, CA, USA October 16-18, 2000; 20001016
SPONSOR: American Society of Anesthesiologists Inc.
DOCUMENT TYPE: Meeting; Meeting Abstract
RECORD TYPE: Abstract
LANGUAGE: English

ABSTRACT: Introduction: The aim of this multicenter prospective study was to evaluate blood transfusion requirements in orthotopic liver transplantation (OLT) and to determine factors linked to an increase in red-cell transfusions. Material and methods: After Institutional Approval, we enrolled all consecutive patients over 18 yr of age, who underwent OLT from 1/99 to 12/99 in 8 Universitary Hospitals in France (City of Bordeaux, Clichy, Lille, Lyon, Nice, Paris, Rennes and Strasbourg). Demographic data, surgical and anesthetic techniques, patient outcome and transfusion requirements of red-cell, fresh frozen plasma (FFP) and platelets were recorded prospectively untill the 8th postoperative day. Factor linked to an increase in red-cell transfusions were determined by univariate and multivariate analysis. Results are given as mean+-SD. P<0.05 is considered significant. Results: 303 patients were included (M/F: 76/34%, age: 50+-8 yr). 85% of the patients had a liver cirrhosis, 27% a carcinoma, 4% a fulminant hepatitis. %%%Hemoglobin%%% level was <10.0 g/dL in 30% of patients, prothrombine time (PTT) was <40% in 20%, platelets count was <50.109/L in 18%. The following techniques were used : split : 1.4%; %%%porto%%%-caval anastomosis: 49%; extracorporeal circulation: 4%; intraoperative blood

recuperation: 42%. Mortality rate was 4% on postoperative day 8. Red-cell transfusion was performed in 88% of the patients (red-cell units (mean (50th-95th percentile): 9 (6-21)). FFP was administered to 74% of the patients (FFP units: 17 (7-41)). 61% of the patients received platelets (platelets units: 61 (7-48)). Independent factors (multivariate analysis) associated to an increase in red-cell transfusion are given in Table I. Discussion: Transfusion requirements, and the related costs of blood products, during OLT are very high, as only 12% of the patients received no transfusion at all. Significant variability between Institutions were observed. Risk factors of increased transfusion requirements may be identified preoperatively.

8/7/4
DIALOG(R)File 5:Biosis Previews(R)

0013505434 BIOSIS NO.: 200200098945
%%%Hemoglobin%%% %%%Porto%%% Alegre forms a tetramer of tetramers superstructure
AUTHOR: Baudin-Creuza Veronique (Reprint); Fablet Christophe; Zal Franck; Green Brian N; Prome Danielle; Marden Michael C; Pagnier Josee; Wajcman Henri
AUTHOR ADDRESS: INSERM U 473, 84 Rue du General Leclerc, 94276, Le Kremlin-Bicetre, France**France
JOURNAL: Protein Science 11 (1): p129-136 January, 2002 2002
MEDIUM: print
ISSN: 0961-8368
DOCUMENT TYPE: Article
RECORD TYPE: Abstract
LANGUAGE: English

ABSTRACT: The effects of the mutation beta9(A6)SerfwdarwCys on the interactions between the human %%%hemoglobin%%% molecules were investigated, and comparisons were made with other variants having an additional cysteine residue. In %%%hemoglobin%%% %%%Porto%%% Alegre (PA), the beta9 mutation induces polymerization by forming interchain disulfide bonds via the extra cysteine. The hemolysate from a heterozygote was separated by gel filtration into a tetrameric fraction and a higher-molecular-weight oligomeric fraction (30%). Reversed-phase high-performance liquid chromatography and electrospray ionization mass spectrometry (ESI-MS) under denaturing conditions showed that the tetrameric fraction contained only normal alpha- and beta-chains, whereas the oligomeric fraction contained only normal alpha-chain and disulfide-linked betaPA dimer. Under native conditions, ESI-MS of the oligomeric fraction revealed a principal complex of mass 258,400 Da corresponding to a tetramer of tetramers, and 10% of minor components. Transmission electron microscopy corroborated this structure by showing four spheres of 140 ANG diameter surrounding a central cavity. Equilibrium experiments on the oligomer at different concentrations, using gel filtration and dimer exchange experiments with metHbA-CN, showed that the tetramer of tetramers dissociates into smaller species, probably by breaking the dimer-dimer allosteric interface. None of the other variants investigated formed such a large oligomer.

Ser 9 Cys

8/7/5
DIALOG(R)File 5:Biosis Previews(R)

0013469017 BIOSIS NO.: 200200062528
Transgenic, cross-linked %%%hemoglobin%%%
AUTHOR: Townes T M; McCune S L
AUTHOR ADDRESS: Birmingham, Ala., USA**USA
JOURNAL: Official Gazette of the United States Patent and Trademark Office Patents 1196 (2): p1146 March 11, 1997 1997
MEDIUM: print
ISSN: 0098-1133
DOCUMENT TYPE: Patent
RECORD TYPE: Citation
LANGUAGE: English

8/7/6
DIALOG(R)File 5:Biosis Previews(R)
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0013224329 BIOSIS NO.: 200100396168
Molecular engineering of a polymer of tetrameric hemoglobins
AUTHOR: Fronticelli Clara (Reprint); Arosio Daniele; Bobofchak Kevin M; Vasquez Gregory B
AUTHOR ADDRESS: Department of Anesthesiology, Johns Hopkins University School of Medicine, 600 N. Wolfe St., Baltimore, MD, 21287, USA**USA
JOURNAL: Proteins 44 (3): p212-222 August 15, 2001 2001
MEDIUM: print
ISSN: 0887-3585
DOCUMENT TYPE: Article
RECORD TYPE: Abstract
LANGUAGE: English

ABSTRACT: We have engineered a recombinant mutant human %%%hemoglobin%%%, Hb Prisca beta(S9C+C93A+C112G), which assembles in a polymeric form. The polymerization is obtained through the formation of intermolecular S-S bonds between cysteine residues introduced at position beta9, on the model of Hb %%%Porto%%% Alegre (beta9SerfwdarwCys) (Bonaventura and Riggs, Science 1967;155:800-802). Cbeta93 and Cbeta112 were replaced in order to prevent formation of spurious S-S bonds during the expression, assembly, and polymerization events. Dynamic light scattering measurements indicate that the final polymerization product is mainly formed by 6 to 8 tetrameric %%%hemoglobin%%% molecules. The sample polydispersity Q=0.07+-0.02, is similar to that of purified human %%%hemoglobin%%% (Q=0.02+-0.02), consistent with a good degree of homogeneity. In the presence of strong reducing agents, the polymer reverts to its tetrameric form. During the depolymerization process, a direct correlation is observed between the hydrodynamic radius and the light scattering of the system, which, in turn, is proportional to the mass of the protein. We interpret this to indicate that the %%%hemoglobin%%% molecules are tightly packed in the polymer with no empty spaces. The tight packing of the %%%hemoglobin%%% molecules suggests that the polymer has a globular shape and, thus, allows estimation of its radius. An illustration of an arrangement of a finite number of tetrameric %%%hemoglobin%%% molecules is presented. The conformational and functional characteristics of this polymer, such as heme pocket conformation, stability to denaturation, autoxidation rate, oxygen affinity, and cooperativity, remain similar to those of tetrameric human %%%hemoglobin%%%.

8/7/7
DIALOG(R)File 5:Biosis Previews(R)
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0013052246 BIOSIS NO.: 200100224085
[Prevalence and risk factors for anemia among children in Brazil]
ORIGINAL LANGUAGE TITLE: Prevalencia e determinantes de anemia em criancas de %%%Porto%%% Alegre, RS, Brasil
AUTHOR: Meyer da Silva Loraine Storch (Reprint); Justo Giugliani Elsa Regina; Ganzo de Castro Aerts Denise Rangel
AUTHOR ADDRESS: Rua Dolario dos Santos, 281/101, Centro, 88802-080, Criciuma, SC, Brazil**Brazil
JOURNAL: Revista de Saude Publica 35 (1): p66-73 Fevereiro, 2001 2001
MEDIUM: print
ISSN: 0034-8910
DOCUMENT TYPE: Article
RECORD TYPE: Abstract
LANGUAGE: Portuguese

ABSTRACT: Objective: To verify the prevalence of anemia among children aged 0 to 36 months, who attend public day care centers in %%%Porto%%% Alegre, Brazil, and assess its possible risk factors. Methods: A cross-sectional study was carried out in 557 children aged 0 to 36 months of all public day care centers in %%%Porto%%% Alegre. Anthropometric measurements and

%%%hemoglobin%%% levels were performed. The portable HemoCue photometer was employed to measure %%%hemoglobin%%% levels, and anemia was considered when the %%%hemoglobin%%% level was below 11 g/dl. Information regarding each child was obtained by means of a questionnaire applied to the mother. The association of the variables studied to anemia was analyzed using the log-binomial regression technique applied to the hierarchical model. Results: A 47.8% prevalence of anemia was found in this population. The risk factors for anemia in the studied group were: families with per capita income equal or less than one monthly minimal wage (prevalence ratio - RP =1.6), age between 12 and 23 months (RP=1.4), and having 2 or more siblings younger than 5 years old (RP=1.4). Conclusions: There is a high prevalence of anemia among children aged 0 to 36 months in public day care centers, especially among children with the lowest socioeconomic level, in the 12 to 23 months age group, and who have 2 or more siblings under 5 years of age, indicating that there is an urgent need for effective measures to fight and prevent this condition.

0010545665 BIOSIS NO.: 199699179725
MRNA analysis in reticulocytes of subjects with Hb D, Hb %%%Porto%%% Alegre, Hb E, and different types of unstable %%%hemoglobin%%% variants
AUTHOR: Smetanina N S; Huisman T H J (Reprint)
AUTHOR ADDRESS: Lab. Protein Chem., Dep. Biochem. Molecular Biol., Med. Coll. Ga., Augusta, GA 30912-2100, USA**USA
JOURNAL: American Journal of Hematology 52 (4): p258-263 1996 1996
ISSN: 0361-8609
DOCUMENT TYPE: Article
RECORD TYPE: Abstract
LANGUAGE: English

ABSTRACT: Using a reverse transcription-polymerase chain reaction (RT-PCR) technique we determined the alpha-2/alpha-1, alpha/beta, and gamma/beta mRNA ratios in reticulocytes of 11 patients with seven different unstable beta chain variants, of 4 patients with two unstable alpha chain variants, in %%%hemoglobin%%% (Hb) D, Hb %%%Porto%%% Alegre, and Hb E heterozygotes, and in 8 patients with Hb X-beta-O-thalassemia (thal) (three D-beta-O-thal, one %%%Porto%%% Alegre-beta-O-thal, one Lulu Island-beta-O-thal, and three E-beta-O-thal). In addition, we determined the beta-X/beta-A mRNA ratios (X = unstable) in some Hb D heterozygotes and in 6 subjects with an unstable beta chain variant. Normal alpha/beta and beta-X/beta-A mRNA ratios were found in all heterozygotes tested, indicating that the respective mutations did not alter the stability of the mRNAs. The alpha/beta mRNA ratio in four Hb E heterozygotes averaged 4.21 (normal, 4.47), and that in 2 patients with Hb E-beta-O-thal and four alpha-globin genes (alpha-alpha/alpha-alpha) averaged a high 22.4. The gamma mRNA level in the Hb E heterozygotes was lt 1% but varied greatly in patients with Hb E-beta-O-thal; the alpha/(gamma + beta) mRNA ratios in the 2 patients were 15.5 and 16.7, respectively. The large differences in alpha/beta and alpha/(gamma + beta) mRNA ratios in reticulocytes of subjects with AE and with E-beta-O-thal may be due to differences in the levels of normally-spliced beta-E and abnormally-spliced beta-E mRNAs. Only the latter is unstable and is preferentially produced in bone marrow and reticulocytes of Hb E-beta-O-thal patients, where it is rapidly degraded.

0009306819 BIOSIS NO.: 199497328104
Association of Hb Santa Ana (alpha-2-beta-288(F4)Leu fwdarw Pro) and Hb %%%Porto%%% Alegre (alpha-2-beta-29(A6)Ser fwdarw Cys) in a Brazilian female
AUTHOR: Goncalves M S (Reprint); Sonati M F; Kimura M; Arruda V R; Costa F F; Nechtman J F; Stoming T A
AUTHOR ADDRESS: Dep. Clin. Med., Sch. Med. Sci., UNICAMP, Campinas, Brazil

**Brazil
JOURNAL: Hemoglobin 18 (3): p235-239 1994 1994
ISSN: 0363-0269
DOCUMENT TYPE: Article
RECORD TYPE: Citation
LANGUAGE: English

8/7/10
DIALOG(R)File 5:Biosis Previews(R)

0009009376 BIOSIS NO.: 199497030661
Rapid identification of beta-globin structural mutations by sequencing the mRNA from peripheral blood reticulocytes
AUTHOR: Miranda S R P; Goncalves M S; Sonati M F; Saad S T O; Costa F F (Reprint)
AUTHOR ADDRESS: Hemocentro, UNICAMP, Caixa Postal 6198, 13084-260 Campinas, SP, Brazil**Brazil
JOURNAL: Brazilian Journal of Medical and Biological Research 26 (10): p 1025-1030 1993 1993
ISSN: 0100-879X
DOCUMENT TYPE: Article
RECORD TYPE: Abstract
LANGUAGE: English

ABSTRACT: A simple and rapid method for the molecular detection of beta-globin structural mutations is described using a reverse transcription-polymerase chain reaction of reticulocyte mRNA and direct sequencing of the product. The amplified segment (employing a sense primer 5'ATTTGCTTCTGACACAACTGT-3', located at position +1 with respect to the Cap site and an antisense primer 5'-TCCAGATGCTCAAGGCCCTTC-3', located at position + 1772 with respect to the Cap site) encompasses the cDNA sequence including the three globin exons. Employing this method we were able to characterize two %%%hemoglobin%%% structural variants: Hb S (beta 6 (A3) Glu-Val: GAGGTG) and Hb %%%Porto%%% Alegre (beta 9 (A6) Ser-Cys: TCT-TGT). The approach described in this paper should be very useful to detect %%%hemoglobin%%% structural variants because the RNA extraction is simple, rapid and does not require cesium chloride, guanidinium and proteinase K. In addition, the direct sequencing of the RT-PCR product permits the screening of the entire globin genes with only two reactions.

8/7/11
DIALOG(R)File 5:Biosis Previews(R)

0008751513 BIOSIS NO.: 199395053779
Anaemia in a population sample from an endemic malaria area of Rondonia State, Brazil
AUTHOR: Cardoso Marly A; Ferreira Marcelo U; Camargo Luis M Aranha; Szarfarc Sophia C (Reprint)
AUTHOR ADDRESS: Av. Dr. Arnaldo 715, 01246-904, Sao Paulo, SP, Brazil** Brazil
JOURNAL: Revista de Saude Publica 26 (3): p161-166 1992
ISSN: 0034-8910
DOCUMENT TYPE: Article
RECORD TYPE: Abstract
LANGUAGE: Portuguese

ABSTRACT: With the purpose of describing the prevalence rate of anaemia among inhabitants of a malaria endemic area - Candeias district, a periurban locality near %%%Porto%%% Velho, in Rondonia State, Brazilian Amazon Basin - a random population sample comprehending 1,068 individuals of all age groups (14.1% of the total population) was screened for anaemia (measurement of blood haemoglobin concentration) and malaria (Giemsa-stained thick-smear microscopy). Two-hundred and ninety-nine individuals (28.0% of the sample) were found to be anaemic, using the cut-off haemoglobin values proposed by the World Health Organization for each age group. Highest prevalence rates were found among children with ages varying from 6 months to 1 year (70.0%) from 1 to 6 years (38.4%),

as well as in pregnant women (41.2%, 7/17) and malaria patients (44.4%, 8/18). Parasitological stool examinations were made on a voluntary sample of 476 individuals (44.6% of the same population); of these, 118 (26.8%) were positive. Eggs of Ascaris lumbricoides, the most frequent intestinal parasite in this population sample, was detected in 67 stool samples (14.1%); only 27 patients (5.7%) eliminated Ancylostomidae eggs. In this voluntary sample, no significant difference in anaemia prevalence rates between parasite carriers and non-parasited individuals was detected. On the other hand, the more recent the last malarial episode referred to by the patients, the lighter prevalence rate of anaemia in individuals above the age of 14 years. The role played by malaria as an underlying cause of anaemia in Candeias district inhabitants, particularly in the economically active age group, is further discussed.

8/7/12
DIALOG(R)File 5:Biosis Previews(R)

0007661588 BIOSIS NO.: 199191044479
ALPHA THALASSEMIA FREQUENCY IN NEWBORN CHILDREN FROM %%%PORTO%%% ALEGRE BRAZIL
AUTHOR: PEDROLLO E (Reprint); HUTZ M H; SALZANO F M
AUTHOR ADDRESS: DEP GENET, INST BIOCIENCIAS, UNIV FEDERAL DO RIO GRANDE DO SUL, CAIXA POSTAL 15053, 91501 PORTO ALEGRE, RS, BRASIL**BRAZIL
JOURNAL: Revista Brasileira de Genetica 13 (3): p573-582 1990
ISSN: 0100-8455
DOCUMENT TYPE: Article
RECORD TYPE: Abstract
LANGUAGE: ENGLISH

ABSTRACT: Blood samples from 599 %%%Porto%%% Alegre newborn children were screened by electrophoretic methods. The overall prevalence of Hb Bart's was 3.7%, with a higher (5.4%) frequency among Black, as compared to White (2.5%) babies. Twenty-one children showed Hb Bart's levels between 1 and 4% and one had 5.1% of this %%%hemoglobin%%%. This child had a reduced MCH and MCV, compatible with the thalassemic trait, and was classified as homozygous for .alpha.+ thalassemia, while the infants with lower levels of Hb Bart's were considered heterozygotes for this condition. Maximum likelihood calculations indicated that this method detects only half of -.alpha./.alpha..alpha. individuals. Accordingly, the prevalence of haplotype -.alpha. was estimated as 6% in Black and as 2.5% in White children. Red cell counts and other hematological parameters, gestational age, weight and Apgar scores did not differ significantly between normal babies and carriers of Hb Bart's.

8/7/13
DIALOG(R)File 5:Biosis Previews(R)

0006302774 BIOSIS NO.: 198936011665
ANGIOGRAPHIC EVALUATION OF PORTAL BLOOD FLOW AS A LONG-TERM PROGNOSTIC INDICATOR OF SURVIVAL IN CIRRHOTICS
AUTHOR: FINUCCI G F (Reprint); BELLON S; MERKEL C; TIRELLI M; GATTA A; ZUIN R
AUTHOR ADDRESS: DEP CLIN MED, UNIV PADUA, ITALY**ITALY
JOURNAL: Hepatology 8 (5): p1346 1988
CONFERENCE/MEETING: 39TH ANNUAL MEETING AND POSTGRADUATE COURSE OF THE AMERICAN ASSOCIATION FOR THE STUDY OF LIVER DISEASES, CHICAGO, ILLINOIS, USA, NOVEMBER 5-8, 1988. HEPATOLOGY (BALTIMORE).
ISSN: 0270-9139
DOCUMENT TYPE: Meeting
RECORD TYPE: Citation
LANGUAGE: ENGLISH

8/7/14
DIALOG(R)File 5:Biosis Previews(R)

0006194624 BIOSIS NO.: 198886034545
OSMOMETRIC STUDY OF THE SUBUNIT DISSOCIATION OF %%%HEMOGLOBIN%%% %%%PORTO%%% ALEGRE BETA-9-A6-SER-CYS DISULFIDE POLYMER
AUTHOR: TONDO C V (Reprint)
AUTHOR ADDRESS: LAB DE BIOFISICA MOLECULAR, DEP DE FISIOLOGIA, FARMACOLOGIA E BIOFISICA, INST BIOCIENCIAS, UNIVERSIDADE FEDERAL DO RIO GRANDE DO SUL, PORTO ALEGRE, RS**BRAZIL
JOURNAL: Anais da Academia Brasileira de Ciencias 59 (3): p244-252 1987
ISSN: 0001-3765
DOCUMENT TYPE: Article
RECORD TYPE: Abstract
LANGUAGE: ENGLISH

ABSTRACT: The %%%hemoglobin%%% %%%Porto%%% Alegre (HbPA) disulfide polymer dodecamer and the HbPA, HbA disulfide polymer octamer subunit dissociation by NaCl was studied by measuring the osmotic pressure of CO-%%%hemoglobin%%% solutions at pH = 6.9 and 20.degree.C. The dissociation equilibrium constants were evaluated from the osmotic pressure data. The subunit dissociation of the two types of disulfide polymers follows a reaction of the type A3 .dblarw. 3A. The HbPA disulfide polymer dodecamer appears to be more susceptible to NaCl induced dissociation than is normal HbA and less resistent to dissociation on protein dilution. The HbPA, HbA disulfide polymer octamer appears to be much more susceptible to dissociation on protein dilution than in the HbPA disulfide polymer dodecamer and normal HbA. The standard free energy of dissociation of the HbPA disulfide polymer at 2 M NaCl is .DELTA.GDo(25.degree.C) = 12 kcal/mole. The type of dissociation reaction (A3 .dblarw. 3A) support the conclusion that the HbPA disulfide polymer has a quaternary molecular structure of a closed ring of three tetramers.

8/7/15

0005764599 BIOSIS NO.: 198784118748
KINETIC STUDY OF %%%HEMOGLOBIN%%% %%%PORTO%%% ALEGRE BETA-9-A6-SERINE TO CYSTEINE POLYMERIZATION BY INTER-TETRAMER DISULFIDE BOND FORMATION
AUTHOR: TONDO C V (Reprint)
AUTHOR ADDRESS: LAB BIOFISICA MOL, INST BIOCIENCIAS, UNIV FEDERAL RIO GRANDE SUL, 90010 PORTO ALEGRE, RS**BRAZIL
JOURNAL: Anais da Academia Brasileira de Ciencias 58 (3): p357-362 1986
ISSN: 0001-3765
DOCUMENT TYPE: Article
RECORD TYPE: Abstract
LANGUAGE: ENGLISH

ABSTRACT: The polymerization of %%%hemoglobin%%% %%%Porto%%% Alegre (HbPA) by inter-tetramer disulfide bond formation at pH 7.6 follows kinetic second order in Hb concentration. The initial stage of the polymerization was associated with the formation of an HbPA-S-S-HbPA octamer and a rate constant of 9 .times. 10-2M-1 min-1 was found at 13.degree. C. A later stage of the polymerization was associated with HbPA-S-S-HbPA-S-S-HbPA dodecamer formation and the rate constant calculated by an approximate treatment was found to be 2.8M-1 min-1 at 13.degree. C. The polymerization by intertetramer disulfide bond formation of HbPA in a 1:1 mixture with HbA follows second order kinetics and is monophasic. The lower rate constant found for the HbPA-S-S-HbA octamer (3.9 .times. 10-2 M-1 min-1 at 13.degree. C) is attributed to the formation of S-S bond involving the thiols of the .beta.9 cysteine from HbPA and the .beta.93 cysteine from HbA. The 25.6 e.u. more positive "apparent" entropy of activation found for the dodecamer, when compared to that of the HbPA-S-S-HbPA octamer, is interpreted as due to dehydration of electrically charged groups. The 15.6 e.u. more positive "apparent" entropy of activation of the HbPA-S-S-HbA octamer when compared to that of the HbPA-S-S-HbPA octamer is also interpreted as due to dehydration.

8/7/16

0005521783 BIOSIS NO.: 198783000674
KINETIC STUDY OF %%%HEMOGLOBIN%%% %%%PORTO%%%-ALEGRE
  BETA-9A-6-SERINE-CYSTEINE DISULFIDE POLYMER REDUCTION
AUTHOR: TONDO C V (Reprint); HAMPE O G; REISCHL E
AUTHOR ADDRESS: LAB BIOFISICA MOL, DEP FISIOL, FARMACOL BIOFISICA, INST
  BIOCIENCIAS, UNIV FED RIO GRANDE DO SUL, PORTO ALEGRE, RS**BRAZIL
JOURNAL: Anais da Academia Brasileira de Ciencias 57 (4): p497-506 1985
ISSN: 0001-3765
DOCUMENT TYPE: Article
RECORD TYPE: Abstract
LANGUAGE: PORTUGESE

ABSTRACT: The cleavage of HbPA disulfide polymer by GSH and its indirect
  cleavage by yeast glutathione reductase, via reduced glutathione is
  obtained. Decreasing the initial proportion of GSH in the hemolysate
  increases the formation of HbPA disulfide polymer. In the experimental
  conditions used, yeast glutathione reductase is unable to perform the
  direct cleavage of the mixed disulfide of HbPA and GSH, using it as
  substrate. The reduction of HbPA polymer is tetramers by DTE is analyzed
  by a pseudo-first-order kinetic and two rate constants are obtained. That
  of 265 .times. 103 min1 should be concerned with one disulfide of the
  closed ring and one of the open ring structure of dodecamer, while that
  of 38 .times. 103 min1 is related to disulfide reduction of the octamer.
  The enthalpy of activation values of 8.0 kcal .cntdot. mol-1 and 17.4
  kcal .cntdot. mol-1 obtained, from the Arrhenius plot, for the "fast" and
  "slow" rate disulfide reduction, respectively, are indicative that a
  strong conformational strain of S.sbd.S bonds in the closed ring
  structure is maintained. The entropy of activation values of 24 e.u. and
  52 e.u. are found for the activation of disulfides from dodecamers and
  octamers, respectively.

 8/7/17
DIALOG(R)File 5:Biosis Previews(R)

0004602981 BIOSIS NO.: 198579021880
BLOOD GENETIC STUDIES IN 5 AMAZONIAN POPULATIONS
AUTHOR: ROSA V L D (Reprint); SALZANO F M; FRANCO M H L P; FREITAS M J D M
AUTHOR ADDRESS: DEP BIOL, CENT CIENCIAS BIOL, UNIV FED SANTA CATARINA,
  CIDADE UNIV, 88000 FLORIANOPOLIS, SC, BRASIL**BRAZIL
JOURNAL: Revista Brasileira de Genetica 7 (3): p569-582 1984
ISSN: 0100-8455
DOCUMENT TYPE: Article
RECORD TYPE: Abstract
LANGUAGE: ENGLISH

ABSTRACT: A total of 811 individuals from Coari, State of Amazonas, Brazil,
  were studied in relation to the ABO, MN, Rh, Hb, HP, Tf, Cp and Al
  systems, while 391 persons from four other localities in the same State
  were tested for the Hp, Tf, Cp and Al loci only. In Coari, expected
  gradients were found for alleles Io, Hp1 and HbA when the assumption was
  made that pigmentation corresponded to higher Indian/Black admixture, but
  this correspondence was not so close when other markers were considered.
  The ABO and MN values agreed with data obtained in studies in northern
  Brazilian populations, but the prevalences of d(Rh) and HbS were
  relatively low. The serum protein alleles varied in frequency among the 5
  communities. The observation of 3 rare variants (%%%Hemoglobin%%%
  %%%Porto%%% Alegre, Ceruloplasmin %%%Porto%%% Alegre and Ceruloplasmin A
  Cayapo) extends the range of distribution of these phenotypes. Two
  possible new albumin types (Coari I and Coari II) are described for the
  first time. On the basis of the present data and of those for the Gm
  system, it was estimated that the Coari population should have 43% White,
  14% Black and 43% Indian ancestry.

? t s13/7/1

 13/7/1
DIALOG(R)File 5:Biosis Previews(R)

0009377763 BIOSIS NO.: 199497399048
The dimer-tetramer equilibrium of recombinant hemoglobins: Stabilization of the alpha-1-beta-2 interface by the mutation beta(Cys112 fwdarw Gly) at the alpha-1-beta-1 interface
AUTHOR: %%%Fronticelli Clara%%% (Reprint); Gattoni Maurizio; Lu A-Lien; Brinigar William S; Bucci Jeffries L G; Chiancone Emilia
AUTHOR ADDRESS: Dep. Biochem., Univ. Maryland, Sch. Med., 108 N. Greene St., Baltimore, MD 21201, USA**USA
JOURNAL: Biophysical Chemistry 51 (1): p53-57 1994 1994
DOCUMENT TYPE: Article
RECORD TYPE: Abstract
LANGUAGE: English

ABSTRACT: The dimer-tetramer association constants of several recombinant human hemoglobins (in the CO form) have been measured by differential gel filtration. Recombinant human hemoglobin prepared from recombinant beta-chains, and mutant hemoglobins where the substitution was on the surface, beta(Thr4 fwdarw Asp), in the heme pocket, beta(Val67 fwdarw Thr), at the 2,3-DPG binding site, beta(Val1 fwdarw Met + His2del), had a twofold smaller association with respect to natural hemoglobin. In a mutant at the alpha-1-beta-2 interface, beta(%%%Cys93%%% fwdarw Ala), the association constant was decreased three-fold. Conversely, in a mutant at the alpha-1-beta-1 interface, beta(Cys112 fwdarw Gly), the association constant was two- and four-fold increased with respect to natural and recombinant human hemoglobin. These differences are energetically very small, consistent with the correct folding of the recombinant hemoglobins. The stabilization of the tetrameric structure by a mutation at the alpha-1-beta-1 interface indicates that structural changes at this interface can be propagated through the protein to the alpha-1-beta-2 interface and, thereby, exert an effect on the allosteric equilibrium.

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$31.50 18 Type(s) in Format 3
$47.25 27 Type(s) in Format 7
$78.75 45 Types
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$3.26 TELNET
$93.78 Estimated cost this search
$93.79 Estimated total session cost 2.328 DialUnits
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